

CARGILL
SALT DIVISION

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August 31, 1999

~~1998-1999~~
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Lt. Col. Peter T. Grass
District Engineer
U.S. Army Corps of Engineers
San Francisco District
333 Market Street, 8th Floor
San Francisco, CA 94105-2197

Attention: Mark D'Avignon, Project Manager
Regulatory Functions Branch

Mr. William Travis
Executive Director
San Francisco Bay Conservation and Development Commission
30 Van Ness Avenue, Suite 2011
San Francisco, CA 94102-6080

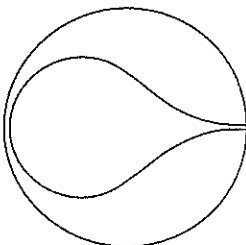
Attention: John Weber, Coastal Permit Analyst

Subject: Cargill Maintenance Report
Cargill Salt Files: 2000.005:0a and 2000.012:131
COE File: 19009S98
BCDC File: 4-93

Dear Colonel Grass and Mr. Travis:

Enclosed is Cargill's **fourth** report of completed maintenance activities as required by our Corps of Engineers and San Francisco Bay Conservation and Development Commission permits. Our purpose is to look back in time, report on completed activities, assess the impacts, if any, of the maintenance activities and the success of our Best Management Practices. We also provide, as best we can, an advanced look at activities that may be of interest to agencies and the public. The BCDC and Corps permits have similar requirements. This is a joint report to both agencies.

Last year's report dealt extensively with the damage caused by the El Niño Storms of 1997-98. While we are still repairing some damage from that event, there is nothing too significant to report in the text. El Niño repairs are noted in the tabular summary. This report, the fifth report, will be comparatively abbreviated. Cargill's maintenance activities have settled into a routine and



both the regulatory agency community as well as the general public seem to be knowledgeable and conversant with the reports.

Simultaneously, as noted, this report also provides **Advanced Notification** (COE term) or **Supplemental Notification** (BCDC term) of any proposed supplemental activities, in the period between the **Final Notification**, due by March 1 of each year, and this August 31 report. This gives the agencies and Cargill an opportunity to review, in advance, activities that may require additional biological surveys, modifications to BMPs, or changes in agreed upon protocols. By providing this advanced or supplementary notification, there will be sufficient time to incorporate agreed upon changes into the final notification, which is the blueprint for next year's work.

As noted, this is Cargill's fourth August Advanced Notification or Supplemental Notification. The first report dated August 31, 1995 covered only the initial startup activities following receipt of the maintenance permit in July 1995. All reports after that time have covered a full year's activities.

Significant events occurring during this year's reporting period are discussed below:

- ◆ Cargill's dredge, the *Mallard*, remained in the Alviso pond system most of the year. The Heron rookery in the vicinity of Pond A18 was especially active and, as a result, the activities of the dredge were both curtailed and carefully coordinated.
- ◆ Dredging from the slough side of salt ponds, permitted under both the Corps and BCDC permits, again proved its worth. Slough side dredging eliminates the need for an entry into a dredge lock.
- ◆ The 49 acre mitigation site continues to exceed expectations as far as progress towards full restoration.

Significant events or activities that will occur, in the future, well out in the reporting cycle are discussed below:

- ◆ Siphons crossing sloughs in the vicinity of Plants 1 and 2 will continue to be inspected and replaced.
- ◆ Surface pipelines, placed on levee tops are being considered for Redwood City, Plants 1 and 2 to allow better movement and control of brines and bitterns.
- ◆ More efficient intakes, better movement and control of higher salinity brines in Redwood City, Plants 1 and 2 will remain a goal for Cargill. That

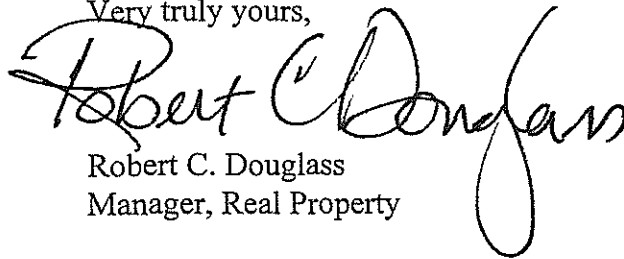
- ◆ may involve construction of new intakes, reconfiguration of internal levees and some changes in historic salinity levels in certain ponds.

All of these kinds of activities are under study now and this is an advance notice per our permit requirements. No construction is anticipated in the near term and any proposed changes of the kind discussed will be published in detail in the year proceeding construction and ample opportunity for regulatory and public comment will be provided.

These activities are detailed in the narrative and mitigation checklist along with our anticipated future dredge lock entries. Returning to our initial comments, this report represents the best efforts of Cargill Salt employees in maintaining our solar salt production facilities in a sensitive environment. Many employees safely contributed hundreds of hours to maintenance activities and compilation of this report itself represents many person hours of effort. To our knowledge, this report is the most extensive of its kind in the Bay Area. Completed work is measured in terms of tens of lineal feet and tens of cubic yards of rip-rap across thousands of acres of our solar system and this effort itself has been integrated into our maintenance planning cycle. Copies of this report and the attachments are being sent to the extensive distribution list developed during permit negotiations. Comments are encouraged from the agencies, groups and individuals in the distribution list.

Questions related to the items enclosed can be directed to me at (510) 790-8156 or Barbara Ransom at (510) 790-8182. Specific comments should be sent to both Mr. Mark D'Avignon at the Corps of Engineers, Regulatory Functions Branch, 333 Market Street, San Francisco, CA 94105-2197, (415) 977-8446; and Mr. John Weber, BCDC, 30 Van Ness Avenue, Room 2011, San Francisco, CA 94102, (415) 557-3686.

Very truly yours,



Robert C. Douglass
Manager, Real Property

RCD:djm

Cc: Permit Distribution List

Enclosures:

**SUPPORTING NARRATIVE
AUGUST 31, 1999
REPORT BY CARGILL SALT
WORK COMPLETED AND ADVANCE NOTIFICATION**

1. COMPLETED WORK

- A. Dredge Work Cargill's dredge, *The Mallard*, remained primarily in the Alviso pond system for the entire maintenance year. Ponds A18, one of the largest in our system and Pond A19 were topped with muds dredged from the inside of the salt ponds. Portions of the outboard levees for Ponds A 10, A-17 and A-23 were topped with muds dredged from the adjoining sloughs. This practice continues to prove its worth because working from the slough eliminates the need to enter a dredge lock. This past year three lock entries were eliminated by working from outside of the salt ponds. The dredge crew has developed a procedure wherein the dredge bucket is carefully loaded with muds, dipped back into the tidal slough to minimize fallback onto the adjoining marsh and then carefully swung over to the levee. Any significant fallback from the dredge bucket is removed by the dredge bucket or by hand shovel work.
- B. Mitigation Site The 49 acre mitigation site in the Baumberg system, adjacent to the Whale's Tale Marsh continues to grow into a viable marsh. Siltation is occurring at a rapid rate, individual tidal channels have appeared and shorebird use is extensive. The new levee that created and separated the site from the adjoining salt pond is scheduled to be reshaped by land based equipment during the 1998-99 maintenance year. The twin 48" culverts installed to provide tidal action will be removed sometime after the levee work and the site will receive unrestricted tidal flows at that time. Wetlands Research Associates has prepared the annual monitoring report which is included in this report. The field work completed so far confirms the site is restoring very well.

2. SPECIAL STATUS SPECIES SURVEYS AND MEASURES

In August of 1998, the dredge successfully exited Pond A-18. The dredge exit and final levee work in this pond was performed per permit condition COE 2.B.i) accommodating the Heron and Egret Colony in Mallard Slough. The existence of the colony immediately adjacent to dredge access cut and along the final levee passes required the dredge to delay work in this pond for an additional 4-6 weeks. During the work on the levee and during the exit, biologists made observations of the colony from the lever room of the dredge. The biologists concluded that routine levee maintenance by the dredge does not appear to have an adverse effect on the colony. In other words, when the dredge was inside the pond performing the routine maintenance work with the colony on the other side of the levee, it did

not appear that the dredge disturbed the birds. The biologists did observe disturbances to the colony as the dredge performed the necessary work to exit the lock. However, per the permit requirements, by this time, no active nests were present.

A bulkhead sheetpile was installed at A-18 lock dam to minimize the stockpile areas. This effort was successful in minimizing the footprint of muds placed in the area.

During the entry and exit of the A-19 pond additional work was performed to maintain the elevation of the bird island in the southeast corner of that pond.

Clapper rail surveys were performed at RWC 4, RWC 3 and Baumberg 8A. Clapper rails were found to be present in all of these locations so no lock access was allowed. The clapper rail survey performed at Baumberg Pond 2 did not find clapper rails. Entry occurred in March 1999 per permit conditions.

Additional bird islands for terns were constructed in Baumberg Ponds 1 and 2 per the land were constructed per permit requirements. One long (approximately 1200 feet) island was completed in Pond 1. Three additional islands were constructed in Pond 2.

3. REVIEW OF BEST MANAGEMENT PRACTICES AND ON-GOING IMPROVEMENTS TO OPERATIONAL PRACTICES

Early in the permit negotiations, considerable concern was expressed by commenting parties over measurable slip outs or spills from dredged materials being placed on levees. Previous reports have discussed this matter in some detail and we are pleased to report that compliance with the conditions of the Corps and BCDC permits over the last five years is at 100%. The dredge crew is justifiably proud of their efforts.

As discussed in previous reports and this year's submittal, the use of reusable, heavy plastic sheet piling has greatly aided in the management of dredged muds. The muds are confined for a period of time as the dewatering process occurs and, when the sheet piles are removed, stockpiles and access cuts are much more stable.

4. ADVANCE AND SUPPLEMENTAL NOTIFICATION OF FUTURE ACTIVITIES - Next Annual Work Period through May 2001

This section presents our best forecast of the types of activities we anticipate for

the upcoming work period of June 2000 through May 2001 and beyond. The primary factor is the need to make solar salt operations in the Bay Area more flexible, cost efficient and more effective in producing high quality brines to support a sustainable tonnage for harvest each year. We need new intakes to ensure the supply of salt from the Bay, new siphons to replace our current system, some of which are over 70 years old, and larger transfer pumps with greater capacities to move brines.

Another focus for future activities results from a three year collaboration with the Santa Clara Valley Water District. This grew out of a memorandum of understanding between the SCVWD and Cargill. One of the areas we have focused on is the repeated flooding of our Alviso system. We plan on working cooperatively to identify areas where flood control channels and streams leading to the Bay can be widened without significantly impacting our solar salt evaporation ponds. This would not only provide protection for Cargill, but it would provide better flood protection for upstream properties. These properties include areas of Silicon Valley where enhanced flood protection would be a considerable public benefit. However, the Santa Clara Valley Water District's planning effort remains in the initial stages and we do not have any definitive projects to report at this time.

Some of the projects we do plan on undertaking in the future are:

Baumberg Tidal Access Channel This was noted last year, but notice to proceed was not received from the Department of Fish and Game. This will be a joint effort with the California Department of Fish and Game. As part of the sale and donation of the Baumberg Tract, Cargill Salt agreed to donate time for our dredge, the *Mallard*, to construct the new tidal channel from the flood control channel to the restoration project site. That work was not scheduled in our current, 1999-2000 maintenance year and, from conversations with the staff at DFG, it appears more likely to occur in the next year.

Increase Efficiency of Plant 1, Plant 2 and Redwood City Brine and Bittern Transport Systems As we increase our bittern sales, we need to internally move bitterns more efficiently. Cargill is in the preliminary stages of design for increased capacity for bittern sales at the Newark plant. We need to move high strength brines more efficiently as well. The interoperability of both the Redwood City plant system and Cargill's ponds on the East Bay side is under review as well.

Specifics on dredge lock entries and exits are detailed on the tables following this section.

SHADED AREAS INDICATE WORK COMPLETED

1998-1999

Cargill Salt's Completed Maintenance Report

San Francisco District Corps of Engineers Permit 19009E98

San Francisco Bay Conservation and Development Commission Permit 4-93

REDWOOD CITY

EL NIÑO RELATED WORK NOT ORIGINALLY NOTED DUE TO LACK OF ACCESS

Location	Ponds Involved	Activity ¹	Duration of Activity	COE ²	BCDC ²	Size/Scope	Comments
REDWOOD CITY	2	General levee maintenance	Ongoing	2a	2b	3450 lf	Build up low areas as needed with land based equipment.
	3	General levee maintenance	Ongoing	2a	2b	1758 lf	Build up low areas as needed with land based equipment.
	5	General levee maintenance	Ongoing	2a	2b	639 lf	Build up low areas as needed with land based equipment.
	S-5	General levee maintenance	Ongoing	2a	2b	531 lf	Build up low areas as needed with land based equipment.
	7-C	General levee maintenance	Ongoing	2a	2b	400 lf	Build up low areas as needed with land based equipment.
	8-W	General levee maintenance	Ongoing	2a	2b	618 lf	Build up low areas as needed with land based equipment.
	9-A	General levee maintenance	Ongoing	2a	2b	600 lf	Build up low areas as needed with land based equipment.
	10	General levee maintenance	Ongoing	2a	2b	2891 lf	Build up low areas as needed with land based equipment.

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REDWOOD CITY	S5	Levee topping "Mallard"	February 1999 through July 1999 or April 1999 through August 1999	2a	2a	4,000 lf	Top with dredged muds, majority of system.
	S5	Other work	Ongoing	1a	2b		Repair or replace Belle Haven discharge pipe.
	SF2	General levee maintenance	Ongoing	2a	2a	5,000 lf	Build up levee as needed with land-based equipment.
	SF2	Other work	Ongoing to May	1a	2b		Replace 36" gate (SF2 to 2)
	SF2 (inside levee)	Rip-rap	Ongoing through August	1e	2a	100 lf, 120 cy	Maintenance of existing rip-rap areas.
	Shipping pier	Maintenance	Ongoing	1a	1d		Repair various pilings, dolphins, walkways as needed.

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Location	Ponds Involved	Activity ¹	Duration of Activity	COE ²	BCDC ²	Size/Scope	Comments
REDWOOD CITY	3	Levee topping "Mallard"	February 1999 through July 1999 or April 1999 through August 1999	2a	2a	14,800 lf	Top with dredged muds, majority of system.
	4	Levee topping "Mallard"	February 1999 through July 1999 or April 1999 through August 1999	2a	2a	9,400 lf	Top with dredged muds, majority of system.
	5	Levee topping "Mallard"	February 1999 through July 1999 or April 1999 through August 1999	2a	2a	3,400 lf	Top with dredged muds, majority of system.
	7A	General levee maintenance	Ongoing	2a	2a	550 lf	Build up low areas as needed on cross levee 7A-8W with land-based equipment.
	7C	Other work	Ongoing to May	1a	2b		Replace pipe and screw gate from pumping donut at 7C brine feed ditch for 7B.
	9A	General levee maintenance	Ongoing	N/A	2a	300 lf	Spot key levee as needed.
	9A	Discing	Ongoing May through August	N/A	2b		Discing dredged muds placed on levee top.
	10	General levee maintenance	Ongoing	2a	2a	150 lf	Spot key levee as needed.
	10	Discing	Ongoing May through August	N/A	2b		Discing dredged muds placed on levee top.

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REDWOOD CITY	1-10, 7A, 7B, 7C, 8E, 8W, 9A, & SF2	Grading	Ongoing May through August	N/A	2b		Routine grading of levee top to provide vehicle access. Where present, grading will not occur in active WSP/seabird nesting areas.
	1, 2	Dirt fill with rip rap trucks	May through September	N/A	2b	180 cy	Dirt fill on levee placed with Cargill trucks during rip rap operations (typical for all similar entries).
	1	Discing	Ongoing May - August	N/A	2b		Discing dredged muds placed on levee top.
	1	General levee maintenance	Ongoing	N/A	2b	1020 lf	Build up low areas by tower out to lock with land-based equipment using existing levee material.
	1	General levee maintenance	Ongoing	N/A	2b	615 lf	Build up low spot on cross levee using land-based equipment.
	1	Rip-rap	Ongoing through August	1e	1c	2268 lf, 1295 cy	Maintenance of existing rip-rap areas.
	1	Levee topping "Mallard"	June 1999 through July 1999 or August 1999 through September 1999	2a	2a	6,800 lf	Top levee using slough muds from Ravenswood Slough, 1,800 lf and spot top bay shore levee 5,000 lf outside of salt pond.
	2 (inside levee)	Rip-rap	Ongoing through August	1e	1c	25 lf, 30 cy	Maintenance of existing rip-rap areas.
	3	Other work	Ongoing	1a	2b		Repair or replace 36" gate at Ravenswood Siphon.